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| 09/974,855 | 10/12/2001 | Atsushi Kota | 61610257US | 7448 |

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H.C. PARK & ASSOCIATES, PLC
8500 LEESBURG PIKE
SUITE 7500
VIENNA, VA 22182

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| EXAMINER |
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SHENG, TOM V

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| ART UNIT | PAPER NUMBER |
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2629

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/974,855 | KOTA ET AL. | |
| | Examiner | Art Unit | |
| | Tom V. Sheng | 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al. (US 5,898,417) in view of Kim et al. (US 6,265,833 B1).

As for claim 15, Kanno teaches an image display apparatus (liquid crystal display apparatus; fig. 1) comprising:

an image display section (display panel 11) having display elements (inherent) arranged in a matrix at intersections of a plurality of scan lines (1024 scan electrodes 11C) and a plurality of data lines (1280 information electrodes 11S; column 4 lines 13-24);

a control circuit (controller 14) which selects one of scanning modes (8 modes as shown in Table 1) as an operation mode (determining the selecting method and the scanning method) in response to a mode switching signal (according to the value of the mode setting signals Mo-M2; fig. 2; column 5 lines 1-20), and outputs a data signal (inherent) and a scan control signal (output signals of selector-1 25 and line memory 26; fig. 2) based on an image signal (video data from main unit 15) to be displayed and said scanning mode (i.e. the selecting method and scanning method determined; see

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column 4 lines 25-63), said scanning modes including a mode where at least two scanning electrodes that were not simultaneously selected are simultaneously driven (corresponds to any of the double scanning methods; see fig. 12 for example);

a row driving section (formed from 8 scan driver ICs; fig. 2) connected to said plurality of scan lines (C1-C128 of one scan driver IC shown) to sequentially drive said plurality of scan lines based on said scan control signal (i.e. the output signals of selector-1 25 and line memory 26 that are in turn based on mode setting signals Mo-M2; column 4 lines 25-63);

a column driving section (formed from 10 information electrode driver ICs; fig. 9) connected to said plurality of data lines (S1-S128 of one information electrode driver IC as shown) to sequentially drive said plurality of data lines based on said data signal (inherent);

wherein an image corresponding to said image signal is displayed on said image display section (inherent), and

wherein said scan control signal (additional signal CDIR) controls a scan direction of said plurality of scan lines (top to bottom or vice versa; see TABLE 3), a number of said plurality of scan lines that are selected (either one scan line or two scan lines at a time; see TABLE 1 and 3), and a location of said plurality of scan lines that are selected (either one by one as C1, C2, etc. or two by two as C1/C2, C3/C4, etc.).

However, Kanno does not teach that the display elements are light emitting elements. Further, Kanno does not teach an external brightness sensor which detects brightness of a peripheral portion of said image display apparatus; and a CPU which

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outputs said mode switching signal and said image signal to said control circuit based on designation by a user, and outputs said mode switching signal to said control circuit based on the detected brightness by said external brightness.

Kim teaches a control circuit (controller 3; figure 3) which selects one of modes (second, third, or fourth driving modes; figure 4) as an operation mode, for a self emitting display device, in response to a mode switching signal (signal converted by the optical signal converter 2), and outputs a data signal (inherent) based on an image signal to be displayed (inherent) and said selected mode;

an external brightness sensor (optical sensor 1 and optical signal converter 2; figure 1) which detects brightness of a peripheral portion of said image display apparatus (senses intensity of light of the outside environment); and

a CPU (done by driving mode selector 3a of controller 3) which outputs said mode switching signal (indicating second, third, or fourth driving mode) and said image signal (inherently from controller 3) to said control circuit based on designation by a user (the driving current and voltage of the different driving modes are preset or could be preset by the user; column 6, line 60 through column 7, line 2) and outputs said mode switching signal to said control circuit based on the detected brightness by said external brightness (as determined by driving mode selector 3a), whereby an image corresponding to said image signal is displayed on said image display section (panel 5). See column 5, line 5 through column 6, line 26.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Kim's teaching of display brightness control in a light

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emitting display based on detected external brightness in Kanno's display driving modes because it allows a viewer a good visibility even with changing ambience lighting without unnecessary power consumption.

Claim 1 is associated with apparatus claim 15. Further, the limitation "wherein a current of said data signal is based on said selected mode" is taught by Kim's driving current as determined by a driving mode selected, since the current requirement in an light emitting display is dependent on the number of scan lines of light emitting elements being simultaneously driven. Moreover, the limitation "said scanning modes including a mode where at least two scanning electrodes are simultaneously driven" corresponds to any dual or quad selecting methods combined with either standard or double scanning methods (TABLE 1), since the at least two scanning electrodes are driven at least part of the time (scan line period).

Claim 2 is read by Kanno's standard scanning with single selecting (TABLE 1).

Claim 5 is read at least by Kanno's double scanning with dual selecting (TABLE 1).

As for claim 16, one of ordinary skill in the art would recognize that when battery is low, one would desire a lower brightness for power saving sake over desirable display brightness.

As for claim 17, it is certainly desirable for a user to set a nominal brightness of display to his/her liking upon receiving a phone call.

Claim 18 is read by Kim's self-emitting display, which can be EL, LED, FED or PDP (column 1, lines 11-16).

3. Claim 3-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno and Kim, as applied to claim 1 or 15 above, and further in view of Kuwata et al. (EP Application Publication 0617399 A1).

As to claims 3-5 and 7-14, Kanno/Kim is silent as to the specific driving schemes in the double scan or double sequential scan driving methods as claimed. On the other hand, Kuwata teaches a multiple line selection method where a plurality of scanning lines is selected at a time (column 3, lines 2-25). This would solve the frame response issue (column 1, lines 19-47). Note also that the rows driven together needs not be continuously arranged. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate any form of Kuwata's MLS as the scanning method in Kanno/Kim's invention, thus further preventing any frame response issue.

As for claim 6, a monochromatic display can be provided simply by turning off the other two color pixels or by making all 3-color pixels same intensity obvious to one of ordinary skill in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide for either color or monochromatic display as the image signal dictates.

Response to Arguments

4. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Sheng
June 13, 2006

A handwritten signature in black ink, appearing to read 'B. Shalwala', with a long horizontal line extending from the bottom of the signature.

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600